

Annotation Software

for Microsoft® Windows®

User manual

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Introducing the Annotation Software

This chapter covers the following topics:

- [About the Annotation Software](#)
- [Annotation Software features](#)

About the Annotation Software

The Annotation Software is an add-on program extending the basic annotation functions of the QC Viewer Software.

The Annotation Software User manual provides general and practical information on using the Annotation Software. For full details on using the Annotation Software in combination with the QC Viewer Software, refer to the QC Viewer Software Reference manual or the QC Viewer online Help.

Annotation Software features

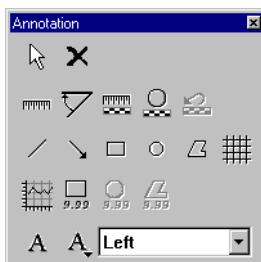
The Annotation Software permits you to add annotations to images and to perform measurements. You can:

- Measure distances.
- Calibrate distances.
- Measure angles.
- Calculate the scan average level within a region of interest (ROI).
- Calculate density profiles.
- Draw lines.
- Draw arrows.
- Draw geometric forms (rectangles, ellipses, polygons).
- Add custom texts and predefined texts.

As an aid when performing measurements or calculations or when adding annotations, you can display grid lines on the image.

- ❖ *Annotations can be shown or hidden.*

You can access the above annotation functions via the buttons on the Annotation toolbar



Annotation toolbar

	Select button		Delete button
	Distance button		Angle button
	Line Calibration button		Circular Calibration button

	Revert Calibration button		
	Line button		Arrow button
	Rectangle button		Circle button
	Polygon button		Grid button
	Density Profile button		Rectangular ROI button
	Circular ROI button		Polygonal ROI button
	Text button		Predefined Text button
			Predefined Text box

Using the Annotation Software

This chapter covers the following topics:

- [Adding an annotation](#)
- [Editing an annotation](#)
- [Deleting an annotation](#)
- [Saving an annotated image](#)

Adding an annotation

The ADC Annotation Software permits adding the following annotations to images: lines, arrows, geometric forms (rectangles, circles, and polygons), predefined text, and custom text. Additionally, distance and angle measurements can be performed. Distance and angle measurements can be calibrated if the image includes a calibrated object. Images can be viewed with annotations turned on or off.

Furthermore, the scan average level and the histogram can be determined for regions of interest and density profiles along lines can be displayed.

Showing/hiding annotations

If annotations have been added to an image, you can choose to show or hide the annotations.

- ❖ *Turn on annotations before adding annotations or performing measurements or calculations.*

- ❖ *If you turn off annotations and save the result, the annotations are not lost. At any time, you can turn annotations on again.*

To turn annotations on or off:

On the View menu, click Annotations.

A check mark means that annotations are turned on. If the image has annotations, the image with its annotations is displayed in the image pane.

Showing/hiding grid lines

When you wish to add annotations to an image or perform measurements, it can be useful to display grid lines on the image.

To turn grid lines on:

- 1 Make sure annotations are turned on.

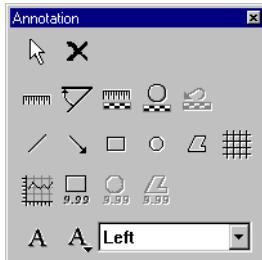
Refer to '[Showing/hiding annotations](#)' on page 10.

- 2 On the Tools menu, click Annotation.

Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



- 3 Click the Grid button.



The Grid Spacing dialog box is displayed.



4 Type the grid spacing.

The regional settings of your ADC QS Station determine the unit of length.

5 Click OK.

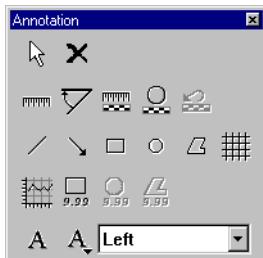
Grid lines are displayed.

To turn grid lines off:**1** On the Tools menu, click Annotation.

Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.

**2** Click the Grid button.

Grid lines are hidden.

Measuring a distance

Via the Annotation toolbar, you can measure the distance between specific features in an image. If you have not calibrated the distance measurement using a reference object in the image, the measurement is referenced against the image plate dimensions.

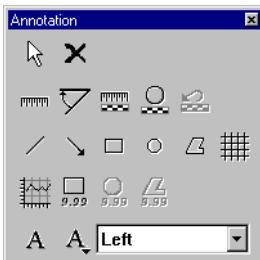
- ❖ *If you wish to use calibrated distance measurements, calibrate first. Refer to '[Calibrating distance measurements](#)' on page [15](#).*

To measure one or more distances:

- 1 Make the image on which you wish to measure the active image.
You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations.
Refer to '[Showing/hiding annotations](#)' on page [10](#).
- 3 On the Tools menu, click Annotation.
Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



4 Measure the distances:

To	Do this	Button
Measure one distance	Click the Distance button.	
Measure several distances	Double-click the Distance button.	

The pointer is now a standard pointer and a ruler.

5 Click once to define the starting point of the measurement, move the pointer, and click again to define the end.

As you move the pointer, the distance between the starting point and the pointer is displayed. The regional settings of your ADC QS Station determine the unit of length.

After you have clicked to define the end of the measurement, the measured distance is displayed. You can move the distance label by dragging it. You can resize the distance label by dragging a sizing handle of the label.

6 To measure several distances, repeat step 5.**7** To save the measurement, either replace the existing image or save the changed image as a new image.

Refer to '[Saving an annotated image](#)' on page [40](#).

➤ To modify the measured distances, refer to '[Editing an annotation](#)' on page [36](#).

Calibrating distance measurements

You can calibrate distance measurements using either a linear or a circular reference object in the image. At any time, you can revert to the original calibration.



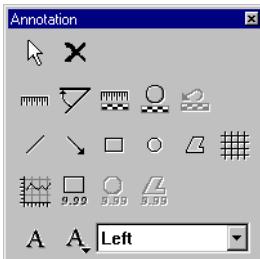
Calibration applies only to the image for which you perform the calibration.

To calibrate distances via line calibration:

- 1 Make the image with the linear reference object the active image. You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations. Refer to '[Showing/hiding annotations](#)' on page 10.
- 3 On the Tools menu, click Annotation. Alternatively, you can click the Annotation button on the Standard toolbar.



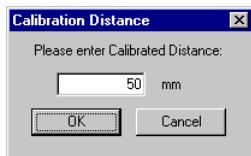
The Annotation toolbar is displayed.



4 Click the Line Calibration button.



The Calibration Distance dialog box is displayed.



5 Type the value for the distance which you will use as calibration distance.

The regional settings of your ADC QS Station determine the unit of length.

6 Click OK.

The pointer is now a standard pointer and a ruler with a calibration bar.

7 Click once to define the starting point of the calibration distance, move the pointer, and click again to define the end.

The calibration distance is displayed. You can move the distance label by dragging it. You can resize the distance label by dragging a sizing handle of the label.

All distances which you will measure will be referenced against the calibration distance.

❖ *Previously measured distances are not recalculated.*

8 To save the calibration, either replace the existing image or save the changed image as a new image.

Refer to '[Saving an annotated image](#)' on page [40](#).

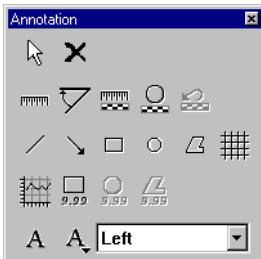
➤ To modify the calibration distance, refer to '[Editing an annotation](#)' on page [36](#).

To calibrate distances via circular calibration:

- 1 Make the image with the circular reference object the active image. You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations. Refer to '[Showing/hiding annotations](#)' on page 10.
- 3 On the Tools menu, click Annotation. Alternatively, you can click the Annotation button on the Standard toolbar.



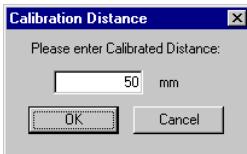
The Annotation toolbar is displayed.



- 4 Click the Circular Calibration button.



The Calibration Distance dialog box is displayed.



- 5 Type the value for the diameter of the circle which you will use as calibration distance.

The regional settings of your ADC QS Station determine the unit of length.

6 Click OK.

The pointer is now a standard pointer and a circle with a calibration bar.

7 Click three points on the circumference of the calibration object.

The calibration distance is displayed. You can move the distance label by dragging it. You can resize the distance label by dragging a sizing handle of the label.

All distances which you measure on the present image will be referenced against the calibration distance.

❖ *Previously measured distances are not recalculated.*

8 To save the calibration, either replace the existing image or save the changed image as a new image.

Refer to '[Saving an annotated image](#)' on page [40](#).

➤ To modify the calibration distance, refer to '[Editing an annotation](#)' on page [36](#).

Measuring an angle

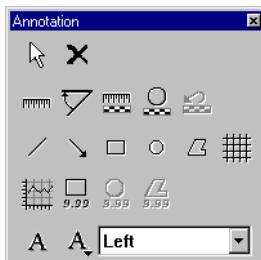
Via the Annotation toolbar, you can measure the angle between two features.

To measure one or more angles:

- 1 Make the image on which you wish to measure the active image.
You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations.
Refer to '*Showing/hiding annotations*' on page 10.
- 3 On the Tools menu, click Annotation.
Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



- 4 Measure the angles:

To	Do this	Button
Measure one angle	Click the Angle button.	
Measure several angles	Double-click the Angle button.	

The pointer is now a standard pointer and an angle.

- 5 Click once to define the starting point of the first line, move the pointer, and click again to define the end.
- 6 Click once to define the starting point of the second line, move the pointer, and click again to define the end.

As you move the pointer, the angle between the two lines is displayed.

After you have clicked to define the end of the second line, the measured angle ($<180^\circ$) is displayed. You can move the angle label by dragging it. You can resize the angle label by dragging a sizing handle of the label.

- 7 To measure several angles, repeat steps **5** to **6**.
- 8 To save the measurement, either replace the existing image or save the changed image as a new image.

Refer to '[Saving an annotated image](#)' on page [40](#).

➤ To modify the measured angles, refer to '[Editing an annotation](#)' on page [36](#).

Calculating the scan average level within a region of interest (ROI)

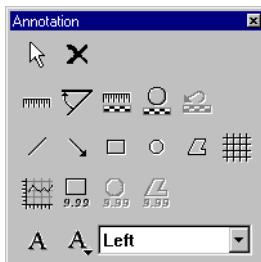
Via the Annotation toolbar, you can calculate the scan average level (SAL) within a rectangular region of interest (ROI).

To calculate the scan average level in one or more regions of interest:

- 1 Make the image on which you wish to calculate the SAL the active image. You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations. Refer to '[Showing/hiding annotations](#)' on page 10.
- 3 On the Tools menu, click Annotation. Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



- 4 Select a form for the region of interest:

To mark	Click	Button
A rectangular ROI	Rectangular ROI button.	A small gray square button with a white border and the text '9.99' in the center.

5 Mark the region of interest:

To draw	Do this
A rectangular ROI	1 Click once to define one corner. 2 Move the pointer. 3 Click again to define the opposite corner.

The scan average level (SAL) of the region of interest is displayed. You can move the SAL label by dragging it. You can resize the SAL label by dragging a sizing handle of the label.

6 To calculate the scan average level (SAL) within several regions of interest, repeat steps **4** to **5**.

7 To save the regions of interest and the corresponding SAL values, either replace the existing image or save the changed image as a new image. Refer to '[Saving an annotated image](#)' on page [40](#).

► To modify the region of interest, refer to '[Editing an annotation](#)' on page [36](#).

Calculating a density profile

Via the Annotation toolbar, you can calculate the density, i.e. the square root of the exposure, along a line integrated over a rectangular area. If you have not calibrated the distance measurement using a reference object in the image, the length dimensions are referenced against the image plate dimensions.

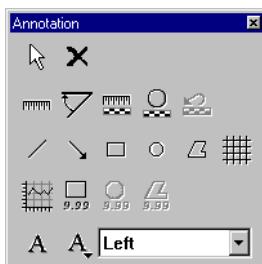
- ❖ *If you wish to use calibrated distance measurements, calibrate first. Refer to '[Calibrating distance measurements](#)' on page 15.*

To calculate a density profile:

- 1 Make the image on which you wish to calculate the active image.
You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations.
Refer to '[Showing/hiding annotations](#)' on page 10.
- 3 On the Tools menu, click Annotation.
Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



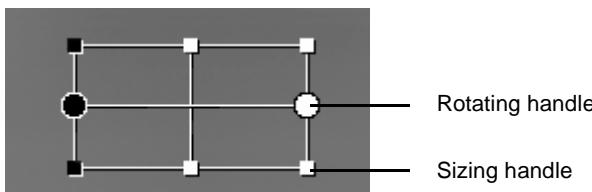
- 4 Click the Density Profile button.



The blank Density Profile window is displayed.

5 Click in the active image.

The density profile marker is displayed.



6 Position the density profile marker so that it covers the area for which you wish to calculate the density profile.

The density profile will be calculated along the line between the circular rotating handles, integrated over the area inside the density profile marker.

To	Do this
Shift the density profile marker	<p>1 Move the pointer to the center of the marker. The pointer is now a cross.</p> <p>2 Drag the marker.</p>
Resize the density profile marker	<p>1 Move the pointer to a sizing handle of the marker. The pointer is now an arrow.</p> <p>2 Drag the handle.</p>
Rotate the density profile marker	<p>1 Move the pointer to a rotating handle of the marker. The pointer is now a curved arrow.</p> <p>2 Drag the handle.</p>

7 Right-click the density profile marker and then click Recalculate on the shortcut menu.

The density profile is displayed in the Density Profile window.

Drawing a line

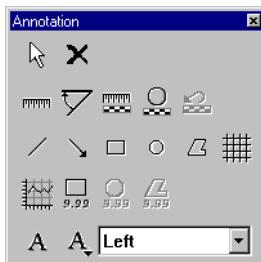
You can indicate specific features in an image via lines.

To draw one or more lines:

- 1 Make the image to which you wish to add lines the active image.
You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations.
Refer to '[Showing/hiding annotations](#)' on page 10.
- 3 On the Tools menu, click Annotation.
Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



- 4 Draw the lines:

To	Do this	Button
Draw one line	Click the Line button.	
Draw several lines	Double-click the Line button.	

The pointer is now a standard pointer and a line.

- 5 Click once to define the starting point of the line, move the pointer, and click again to define the end.
- 6 To draw several lines, repeat step 5.
- 7 To save the lines, either replace the existing image or save the changed image as a new image.
Refer to '[Saving an annotated image](#)' on page [40](#).
► To move or resize lines, refer to '[Editing an annotation](#)' on page [36](#).

Drawing an arrow

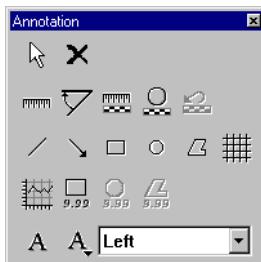
You can indicate specific features in an image via arrows.

To draw one or more arrows:

- 1 Make the image to which you wish to add arrows the active image.
You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations.
Refer to '*Showing/hiding annotations*' on page 10.
- 3 On the Tools menu, click Annotation.
Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



- 4 Draw the arrows:

To	Do this	Button
Draw one arrow	Click the Arrow button.	
Draw several arrows	Double-click the Arrow button.	

The pointer is now a standard pointer and an arrow.

- 5 Click once to define the tip of the arrow, move the pointer, and click again to define the shaft.
- 6 To draw several arrows, repeat step 5.
- 7 To save the arrows, either replace the existing image or save the changed image as a new image.
Refer to '[Saving an annotated image](#)' on page 40.
► To move or resize arrows, refer to '[Editing an annotation](#)' on page 36.

Drawing a geometric form

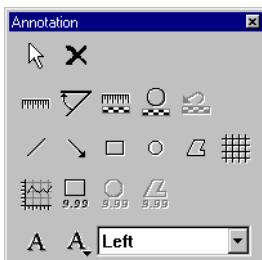
Via the Annotation toolbar, you can add rectangles, ellipses, or polygons to an image.

To draw one or more geometric forms:

- 1 Make the image to which you wish to add a geometric form the active image. You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations.
Refer to '[Showing/hiding annotations](#)' on page 10.
- 3 On the Tools menu, click Annotation.
Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



4 Select a geometric form:

To draw	Click	Button
A rectangle	Rectangle button.	
An ellipse	Circle button.	
A polygon	Polygon button.	

The pointer is now a standard pointer and a geometric form.

- ❖ *To draw several geometric forms of the same type, double-click the corresponding button.*

5 Draw the geometric form:

To draw	Do this
A rectangle	<ol style="list-style-type: none"> 1 Click once to define one corner. 2 Move the pointer. 3 Click again to define the opposite corner.
An ellipse	<ol style="list-style-type: none"> 1 Click once to define one point. 2 Move the pointer. 3 Click again to define the second point.
A polygon	<ol style="list-style-type: none"> 1 Click to define the starting point. 2 Move the pointer and click to define each corner. 3 To close the polygon, click the starting point.

6 To save the geometric forms, either replace the existing image or save the changed image as a new image.

Refer to '[Saving an annotated image](#)' on page [40](#).

➤ To move or resize geometric forms, refer to '[Editing an annotation](#)' on page [36](#).

Adding text

Via the Annotation toolbar, you can add text to an image. You can either add custom text, or select from a number of predefined texts.

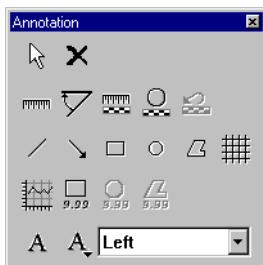
- To set predefined texts, refer to '[Setting predefined texts](#)' on page [34](#).

To add text:

- 1 Make the image to which you wish to add text the active image.
You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations.
Refer to '[Showing/hiding annotations](#)' on page [10](#).
- 3 On the Tools menu, click Annotation.
Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



4 Add the text:

To add	Do this
Custom text	<p>1 Click the Text button.</p>  <p>A text box is displayed.</p> <p>2 Type the text and press ENTER.</p>
Predefined text	<p>In the Predefined Text box, click the text.</p> 

The pointer is now a standard pointer and an A.

- 5** Click once to define the center of the text, move the pointer, and click again to define the size.
- 6** To add several texts, repeat steps **4** to **5**.
- 7** To save the texts, either replace the existing image or save the changed image as a new image.

Refer to '[Saving an annotated image](#)' on page [40](#).

Setting predefined texts

You can save annotation texts which you often use as predefined texts.

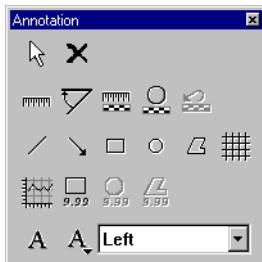
To define one or more predefined texts:

- 1 On the Tools menu, click Annotation.

Alternatively, you can click the Annotation button on the Standard toolbar.



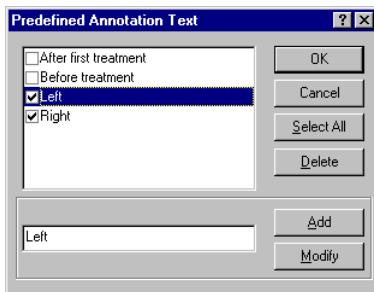
The Annotation toolbar is displayed.



- 2 Click the Predefined Text button.



The Predefined Annotation Text dialog box is displayed.



3 Set the predefined texts:

To	Do this
Add a predefined text	1 Type the text in the box. 2 Click Add.
Modify a predefined text	1 Click the text in the list. 2 Edit the text in the box. 3 Click Modify.
Delete a predefined text	1 Click the text in the list. 2 Click Delete.

4 Select the check boxes of the predefined texts which must be available in the list box of the Annotation toolbar.

5 Click OK.

Editing an annotation

You can easily modify previously defined annotations. You can:

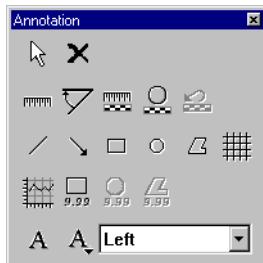
- Move or resize lines, arrows, geometric forms, or text.
- Modify measured distances and angles as well as distance and angle labels.
- Modify calibration distances and calibration labels.
- Modify regions of interest, update the corresponding scan average levels (SAL) and modify the SAL labels.

To edit an annotation:

- 1 Make the image of which you wish to edit an annotation the active image.
You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations.
Refer to '*Showing/hiding annotations*' on page [10](#).
- 3 On the Tools menu, click Annotation.
Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



- 4 Click the Select button.



5 Click the annotation which you wish to edit.

The annotation is selected. Distance, angle and calibration annotations consist of a marker and a label. Region of interest annotations consist of a region of interest marker and a SAL label. You can edit both the markers and the labels.

6 Edit the marker and/or the label:

To	Do this
Move an item	1 Move the pointer to the center of the item. The pointer is now a cross. 2 Drag the item.
Resize an item	1 Move the pointer to a sizing handle of the item. The pointer is now an arrow. 2 Drag the handle.

7 If you have resized a region of interest, right-click it and then click Recalculate on the shortcut menu.

The scan average level (SAL) is updated.

8 To save the edited annotations, either replace the existing image or save the changed image as a new image.

Refer to '[Saving an annotated image](#)' on page [40](#).

Deleting an annotation

If you wish to definitively remove an annotation, you must delete it.



Once an annotation has been deleted, it can by no means be restored!

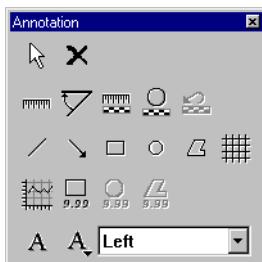
- ❖ If you wish to temporarily hide all annotations, you can turn off annotations. In that case, the annotations are saved with the image and can be re-displayed at any time. Refer to '[Showing/hiding annotations](#)' on page [10](#).

To delete one or more annotations:

- 1 Make the image of which you wish to delete an annotation the active image. You can click the image either in the thumbnail pane or in the image pane.
- 2 Turn on annotations. Refer to '[Showing/hiding annotations](#)' on page [10](#).
- 3 On the Tools menu, click Annotation. Alternatively, you can click the Annotation button on the Standard toolbar.



The Annotation toolbar is displayed.



4 Click the Select button.



5 Click the annotation which you wish to delete.

6 Do one of the following:

- Click the Delete button on the Standard toolbar.
- Click the Delete button on the Annotation toolbar.



- Press the DELETE key.

7 To delete several annotations, repeat steps **4** to **6**.

8 To save your modifications, either replace the existing image or save the changed image as a new image.

Refer to '[Saving an annotated image](#)' on page **40**.

Saving an annotated image

If you have added annotations, and you wish to save these changes, save the image manually on disk.

To save an image:

- 1 Make the image the active image.

You can click the image either in the thumbnail pane or in the image pane.

- 2 Add any annotations.

- 3 Save the image:

To	Do this	Button
Replace the existing image with the changed image	On the File menu, click Save Image. Alternatively, you can click the Save button on the Standard toolbar.	
Save the changed image as a new image which is added to the study	On the File menu, click Save as New.	—

The image is stored in the local database.

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